Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-14 (canceled)

Claim 15 (previously presented): An electrotherapy apparatus for applying electrical stimulation to a muscle or group of muscles of a person or other mammal, wherein said electrical stimulation comprises electrical pulses, said electrical stimulation having parameters comprising at least some of an amplitude, a pulse repetition frequency, a duration of each pulse or group of pulses and a time offset relative to a predicted end of a T-wave of an electrocardiogram derived from said person or mammal, said offset lying in a range from 5 % of the R-R path length of the preceding heart cycle, or of an average value of the R-R path lengths of a plurality of preceding heart cycles, or of a representative R-R path length, before the predicted end of said T-wave up to 45 % of the R-R path length of the preceding heart cycle, or of an average value of the R-R path lengths of a plurality of preceding heart cycles, or of a representative R-R path length, after the predicted end of the T-wave,

wherein the electrotherapy apparatus is adapted to vary at least one of said amplitude, said pulse repetition frequency, said duration and said offset in accordance with a predetermined pattern stored in an associated microprocessor, or randomly in accordance with a random number generator, within pre-specified limits in the course of a treatment extending over many heart cycles, typically over more than 15 minutes, and from one heart cycle to the next or periodically or after a predetermined or randomly selected number of heart cycles.

Claim 16 (previously presented): An electrotherapy apparatus in accordance with claim 15, wherein said amplitude variation amounts to a variation in peak voltage of said electrical stimulating pulses in a range from +10 V to -10 V from a nominal value selected in the range from typically 10 to 50 V.

Claim 17 (previously presented): An electrotherapy apparatus in accordance with claim 15, wherein said pulse repetition frequency lies in a range from 20 to 1000 Hz, and wherein said pulse repetition frequency can be varied within said range.

Claim 18 (previously presented): An electrotherapy apparatus in accordance with claim 15, wherein said pulse duration lies in the range from 0.1 ms to 600 ms and can be varied in this range.

Claim 19 (previously presented): An electrotherapy apparatus in accordance with claim 15, wherein an interval between successive pulses lies in a range from 0.1 ms to 50 ms and can be varied in this range.

Claim 20 (previously presented): An electrotherapy apparatus in accordance with claim 15, wherein said offset can lie within said range from 5 % of the R-R path length of the preceding heart cycle, or of an average value of the R-R path lengths of a plurality of preceding heart cycles, or of a representative R-R path length, before the predicted end of said T-wave up to 45 % of the R-R path length of the preceding heart cycle, or of an average value of the R-R path lengths of a plurality of preceding heart cycles, or of a representative R-R path length, after the predicted end of the T-wave, and can be varied in this range.

Claim 21 (previously presented): An electrotherapy apparatus in accordance with claim 15, wherein a plurality of said parameters are simultaneously varied.

Claim 22 (previously presented): A method for applying electrical stimulation to a muscle or group of muscles of a person or other mammal using electrotherapy apparatus, wherein said electrical stimulation comprises electrical pulses, the electrical stimulation having parameters comprising at least some of an amplitude, a pulse repetition frequency, a duration of each pulse or group of pulses and a time offset relative to a predicted end of a T-wave of an electrocardiogram derived from said person or mammal, said offset lying in a range from 5 % of the R-R path length of the preceding heart cycle, or of an average value of the R-R path lengths of a plurality of preceding heart cycles, or of a representative R-R path length, before the

predicted end of said T-wave up to 45 % of the R-R path length of the preceding heart cycle, or of an average value of the R-R path lengths of a plurality of preceding heart cycles, or of a representative R-R path length, after the predicted end of the T-wave,

wherein at least one of said amplitude, said pulse repetition frequency, said duration and said offset is varied in accordance with a predetermined pattern, or randomly, within pre-specified limits in the course of a treatment extending over many heart cycles, typically over more than 15 minutes.

Claim 23 (previously presented): A method in accordance with claim 22, wherein said amplitude variation is selected to amount to a variation in peak voltage of said electrical stimulating pulses in a range from +10 to -10 V from a nominal value selected in the range from typically 10 to 50 V.

Claim 24 (previously presented): A method in accordance with claim 22, wherein said pulse repetition frequency is selected to lie in a range from 20 to 1000 Hz, and wherein said pulse repetition frequency is varied within said range.

Claim 25 (previously presented): A method in accordance with claim 22, wherein said pulse duration is selected to lie in the range from 0.1 ms to 600 ms or smaller and is varied within this range or in a smaller range.

Claim 26 (previously presented): A method in accordance with claim 22, wherein an interval between successive pulses is selected to lie in a range from 0.1 ms to 50 ms and is varied in this range or in a smaller range.

Claim 27 (previously presented): A method in accordance with claim 22, wherein said offset is selected to lie within said range from 5 % of the R-R path length of the preceding heart cycle, or of an average value of the R-R path length of a plurality of preceding heart cycles or of a representative R-R path length, before the predicted end of said T-wave up to 45 % of the R-R path length of the preceding heart cycle, or of an average value of the R-R path length of a

plurality of preceding heart cycles, or of a representative R-R path length, after the predicted end of the T-wave, and is varied in this range or in a smaller range.

Claim 28 (previously presented): A method in accordance with claim 22, wherein a plurality of said parameters are simultaneously varied.